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The Migration and the Abundance of the Screwworm in 1943.

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Early shipments of cattle made from the drought-stricken areas of the Southwest to northern grazing areas, resulted in the spread of the screwworm (Cochliomyia americana C. & P.) to some areas never before infested. The insect also spread in the southeastern part of the country by natural migration and through shipments of cattle from Florida, where it also passes the winter. A survey was conducted in 26 states between June 15 and November 30, in order to locate the infestations, determine incidence and predisposing causes, and for the purpose of enabling stockmen and interested agencies to cope with the situation. The timely information furnished to them included the use of Smear 62\* as a treatment and preventive for screwworm, details concerning infestations, and the sources of materials needed for control of the pest. The occurrence and relative abundance of screwworms during the season are shown on the accompanying map. Where cases were found to be less than 2.0 percent of the animals, they are represented as of medium occurrence. Those of 2.0 percent or more were considered as serious, and are indicated as heavy infestations.

ALABAMA.—The natural migration of flies moved from western Florida and southwestern Georgia to most of the southern third of Alabama. In general, the infestation was light, although it was heavy in Lee, Macon, and Montgomery Counties, where several carloads of infested cattle were received from Florida. In the center of the infested area, there are 3 counties in which no specimens of the insect were found. Cotton is chiefly grown in these counties, live-stock being comparatively scarce. The southern two-thirds of the State was surveyed.

\*W. E. Dove, U. S. D. A. Leaf. 162, rev. 1943.

ARIZONA.—Rains and flash floods in some areas of the State no doubt were the cause of more screwworm trouble. In the southern part there was a considerable increase in myiasis, the incidence running as high as 2 percent in one or more classes of animals in some local areas. The infestations during August were much heavier than early in June.

ARKANSAS.—From observations it appeared that the migration moved eastward toward the southwestern corner of Tennessee and the northwestern corner of Mississippi until the whole State was lightly infested.

CALIFORNIA.—In August light and scattered infestations did not extend beyond Imperial, San Diego, Orange, Riverside, and San Bernardino Counties. During mid-September somewhat heavier infestation showed up in the southern part of the State, particularly the southern half of Orange County. By the end of the season infestation occurred as far north as the San Joaquin Valley. Scouting was very thorough and extended a short distance north of the infested territory.

COLORADO.—Late in August infestations were found in the southeastern part of Colorado from the Kansas line as far west as Saguache, Rio Grande, and Alamosa Counties. Cases were light, except on some ranches where late docking of lambs in June and July caused considerable local trouble. The livestock owners agreed that their most troublesome screwworm season occurs from September 1 until cold weather; however, an exception was made by stockmen in the San Luis Valley, who stated that the greatest number of cases occurred in June, July, and August, when the daily temperature ranges from about 80 to 90° F. In September infestation extended to almost exactly half of the State, and nearly all of the counties lying east of a line from the northeastern to the southwestern corner of the State. The infestation diminished to the westward, being very light along the western boundary of the infested part in the State. In the high altitudes the screwworm cases occurred before cool weather. The survey covered the State except the northwestern corner.

FLORIDA.—The peninsula of Florida is an overwintering area and a source of screwworms for the entire Southeast. Activity started unusually early in the spring and a heavy population had built up before the initiation of the survey in June. This was followed by a spread of the pest to adjacent areas.



Most of the infestations were predisposed by the Gulf Coast tick, castrations or other man-made injuries, and by injuries that result from the birth of young animals. Many stockmen and county agents reported that the infestation was the heaviest in 4 or 5 years and that it was aided by climatic conditions and an abundance of livestock wounds. The spring and summer of 1943 were abnormally dry and there was more opportunity for flies to complete their development than during rainy seasons when the lowlands are flooded and the immature stages are drowned. Owing to the shortage of manpower, many infested animals were not treated and there are large numbers of cattle and hogs that roam the woods, untended and seldom seen by the owners. A heavy infestation was expected in most of these counties in western Florida as soon as the hogs were turned into the peanut fields. This expectation was based upon the usual practice of ear-marking and castrating hogs when they are turned into the peanut fields, and by hog bites due to fighting. Owing to activity of our scouts and in making Smear 62 available, the expected build-up in population was prevented. Four cases of screwworms in man were reported, but only three were verified. Two of these occurred in the nostril and one was in a chicken pox lesion on the back of the neck of a little girl.

GEORGIA.—Many of the stockmen are of the opinion that the screwworm appeared from 6 weeks or 2 months earlier than in any previous year. The insect was widespread in the southern three-fourths of the State and particularly heavy in southern counties where large herds of cattle graze in the woodlands. The infestations were predisposed by bites of the Gulf Coast tick, by man-made wounds such as castration, dehorning and ear-marking, and by injuries resulting from the birth of young. In Jasper and Jones counties heavy infestations were reported in cattle that were shipped into that area by inexperienced stockmen. All of the State except the northern one-fourth was surveyed.

ILLINOIS.—In September infestations were found in 9 counties being particularly severe in Bond county where about 10 percent or more of the animal population was involved. These cases undoubtedly started as a result of a shipment of about 4,000 head of southwestern Texas sheep into the state in June. No infestations were found in any of the southern counties along the Kentucky state line. In September fewer cases were found in Grundy, Henry, Knox, McLean, Mercer, Peoria, and Warren counties; and in October the infestations had spread to Vermillion and Iroquois counties, both of which experienced considerable trouble. Not more than 1 percent of the animals however were involved.

INDIANA.-- In the survey of the entire State only scattered moderate infestations were seen.

IOWA.-- Infestations were reported in September in 24 counties, all of which were light and scattered, except in Appanoose, Lee, and Louisa, which seem to be quite generally but not heavily infested. In Humbolt County there was some loss among cattle, hogs, and sheep. In October practically the entire state of Iowa was involved but the infestation was very light and cases were hard to find in some counties.

KANSAS.-- The infestation was comparatively light, the heaviest infestations occurring in the northern part of the State around Topeka in 7 or 8 counties that are heavily stocked with cattle.

KENTUCKY.-- No infestations were found in the 9 counties visited in the western part of Kentucky but one doubtful outbreak was reported from Calloway County. Early in June 60 lambs were castrated and docked and on the following day a veterinarian found infestations of what he considered to be screwworm. No other infestations were reported on this farm or from any adjoining farms.

LOUISIANA.-- Screwworms were found in all parishes bordering the Mississippi River, except possibly St. Tammany Parish, which lies directly north of New Orleans. Since Washington Parish on the north and Tangipahoa Parish on the west of St. Tammany were infested there is reason to believe that St. Tammany was also involved. The entire state was infested with the possible exception of a few parishes south of New Orleans. Screwworm incidence was light and somewhat scattered in the lower half of the state, but in the northern half the infestations were quite abundant, approaching 2 percent of the animals in some counties, even along the Mississippi state line.

MICHIGAN.-- The lower half of the southern peninsula was inspected but no infestation was found.

MISSISSIPPI.—A careful survey in the entire State revealed only a few scattered infestations in 8 of the 82 counties. The cases occurring in Lauderdale and Clark counties were probably the result of the natural migration from Alabama. The others seemed to have been due to the importation of infested livestock. A number of infestations were reported along the Mississippi River and were found to be blowfly maggots. They occurred in recently dehorned cattle, in old castration wounds, and in two instances in the hooves of horses.

MINNESOTA.—A limited survey in the southern part of the state showed infestation in 12 counties. The counties of Winona, Houston, Fillmore, Mower, and Freeborn were surveyed but no infestation found. No survey was carried on north of the area indicated on the map as infested.

MISSOURI.—Screwworms were found in every county bordering the Mississippi River, except Scott in the extreme southeastern part of the state, but since Mississippi County, just south of Scott, and Cape Girardeau on the north were both infested, it is almost certain that Scott was also. There was very little trouble in southern Missouri and the scout did not find a county that ran as much as one-half of 1 percent infestation and in most of the counties the cases were scattered. All reports from livestock growers indicated that from the latter part of September until November the screwworm season is at its worst.

NEBRASKA.—Rather general, light infestations were found, but they were distinctly spotted and confined to local areas that had received shipments of southern animals. The survey covered the southern and eastern parts of the state confined by a line drawn from Knox to Deuel county.

NEVADA.—The southern half of the State was surveyed. Moderate infestations were found in the southeastern part only.

OHIO.—Preble and Darke were the only counties inspected but neither was infested.

OKLAHOMA.—Heavy infestations were reported from as far east as central Oklahoma. North of the Creek County; namely, in the Osage grazing area in Oklahoma, which is heavily stocked with cattle, infestations were generally about 1 percent of the livestock population.



SOUTH CAROLINA.—Infestations were found in Beaufort County and doubtful cases were reported in Colleton, Orangeburg, Saluda, and McCormick counties. The southwestern one-fourth of the state was surveyed.

SOUTH DAKOTA.—Light infestations were seen in only 2 counties, Minnehaha and Lincoln; 5 additional counties, Hutchinson, Turner, Yankton, Clay, and Union counties were surveyed.

TENNESSEE.—The survey was conducted in 18 western counties, Dyer being the only one found infested. One doubtful case was reported in each of the following counties: Obion, Shelby, Haywood, and Madison. A number of other infestations were reported, but were found to be blowfly maggots.

TEXAS.—In Texas over 50 county agents sent in tabulated reports on the situation in their counties. These reports came from all parts of the state, as far south as Starr County in the lower Rio Grande Valley, as far north as the Texas Panhandle, and eastward to Rains County in northeastern Texas. The infestation was heavy (above 2 percent), but owing to the continued hot, dry weather the infestation was reported to be lighter in August than earlier. By mid-September the screwworm incidence in the heavily-infested area had been reduced considerably, with the exception of two areas, one of which lies in the southernmost part of the state and the other just east of Lubbock and Amarillo in the Panhandle. County agents in these districts reported infestations of from 2 to 10 percent in all classes of animals. At this time a few counties in the western part of the state, northwest of the San Angelo country, also reported rather heavy infestations in shear cuts of goats, and in eastern Texas only two counties, Rains and Smith, continued to report heavy infestations. During October the infestations dropped considerably and most of the county agents reported only light infestations. Starr County in the extreme southern part of the state, however, reported from 1 to 8 percent infestation.

UTAH.—The southern half of the State was surveyed and no infestations found.

WISCONSIN.—In the inspection of the southwestern part of the State, several counties were found infested.





